STATE OF CALIFORNIA
DEPARTMENT OF FOOD AND
AGRICULTURE
1220 N Street, Room A-372
Sacramento, CA 95814

PEST EXCLUSION ADVISORY

NO. 12-2004

DATE: April 2, 2004

TO: All County Agricultural Commissioners

FROM: Plant Health and Pest Prevention Services

SUBJECT: Regulatory Actions Required at Trace Forward Locations

This is an update to Pest Exclusion Advisory (PEA) 07-2004 that instructed counties on the regulatory actions to take at nurseries that received *Phytophthora ramorum* host material from Monrovia Nursery in Azusa, CA and Specialty Plants in San Marcos, CA. Both of these nurseries were determined to be infested with *P. ramorum* through the Statewide Nursery Survey that was begun in February 2004. Trace forward investigations determined that over 380 nurseries statewide received plants from Monrovia Nursery in Azusa. PEA 07-2004 instructed that all plants from Monrovia in Azusa that remain at each trace forward location **must be placed on hold** until further notice.

The following procedures are to be followed at trace forward locations where plants from Monrovia remain on hold:

1. Isolate or segregate plants identified from trace forward procedures.

2. Inspect trace forward plants for symptoms of Sudden Oak Death.

3. Take samples from symptomatic and asymptomatic trace forward host plants, up to a maximum of 40 samples per nursery.

4. Record which plants were sampled, and map their location at the nursery. Follow the sanitation instructions in the attached "Trace Forward Protocol".

5. Submit samples to the California Department of Food and Agriculture (CDFA) Plant Pest Diagnostics Laboratory to test for the presence of *P. ramorum*.

6. If test results are negative, release all plants.

7. If test results are positive, the regulatory action will depend on whether or not the nursery ships hosts of *P. ramorum* out-of-state.

    a. For Nurseries that intend to **Ship Out-of-State:**
        - Follow the Protocol for Nurseries with Plants Infected with *P. ramorum*, January 12, 2004, Fourth Draft (see Pest Alert 1-2004). Certification to meet the revised Federal Domestic Quarantine for *P. ramorum* (CFR 301.92) cannot be issued until the nursery is determined to be free of *P. ramorum*.

Prepared by: Courtney Albrecht

b. For Nurseries that **Do Not Ship Out-of-State:**
   - Destroy all plants that tested positive plus all *P. ramorum* host plants within two meters under official supervision. Approved disposal methods are incineration or deep burial. Instructions on disposal can be found in Protocol for Nurseries with Plants Infected with *P. ramorum*, Appendix A.
   - Place a hold order on all hosts of *P. ramorum* within 10 meters of the two-meter destruct zone. Record the number and kind of plants on hold, notify CDFA, and **wait for further instructions.**

8. If samples have already been taken and the results are positive, follow the above instructions beginning with number seven.

9. If the trace forward nursery is outside of one of the 12 infested counties and has entered into a compliance agreement to meet the revised Federal Domestic Quarantine (CFR 301.92), determine if the plants from Monrovia have already been sampled and have been found free of *P. ramorum*.

   a. If the plants from Monrovia have not been sampled, the compliance agreement must be temporarily cancelled and testing according to the sampling procedures listed above must be followed.
      - If results are negative, the nursery may re-enter the compliance agreement.
      - If results are positive, the Protocol for Nurseries with Plants Infected with *P. ramorum* must be followed until the nursery is determined to be free of *P. ramorum*.

   b. If the plants from Monrovia **have been sampled** (with negative results) the compliance agreement may remain in effect.

If you have any questions regarding this advisory, please contact Courtney Albrecht at (916) 653-1440, or by e-mail at calbrecht@cdfa.ca.gov.

Attachment

***Phytophthora ramorum* – Sudden Oak Death, ramorum blight, ramorum die back**
19 March 2004

"Trace Forward Protocol"
Protocol for nurseries with plant material shipped from a confirmed
P. ramorum infested nursery.

Before inspection:

1. Notify state officials of your plans to inspect.
2. Coordinate visit with State inspector.

Survey/Inspection Procedure:

1. Identify yourself and agency to greenhouse/nursery owner/manager.
2. Tell greenhouse/nursery owner/manager the purpose of your visit.
3. Obtain copies of shipping documents related to target plants received from a confirmed *P. ramorum* infested nursery and forwarded to other nurseries or retail facilities.
4. Ask owner/manager to fill out questionnaire (attached).
5. Complete an Emergency Action Notification (EAN, PPQ form 523) to place a hold on target plants from the infested nursery and other host plants, products or articles that present a risk of spreading *Phytophthora ramorum* (e.g., growth media, equipment). Segregate the plants away from other host plants (see Table 1) as best as can be done.

Use this language in Section 16- Action Required:

All plant shipments of the following listed species received from any infested nursery in California during the period from March 2003 to March 2004 are prohibited from movement pending further notification by USDA APHIS PPQ. See the attached (Table 1) *P. ramorum* host and associated host list for the nursery target plants and varieties.

6. Visually inspect any host plants for symptoms. Symptomology is described and illustrated in two nursery guides that may be viewed and printed from http://www.suddenoakdeath.org/. See Table 1, attached to this document, for the list of hosts as of 13 February 2004. Symptoms may include:
    a. Leaf spots
    b. Twig dieback
    c. Stem cankers

Note: Instructions to commence sampling will be sent out from Riverdale, MD when the diagnostic laboratories are ready to accept samples. Listed below are sampling protocols to use *at that time*:

7. If practical and possible collect a minimum of 40 samples (symptomatic and/or asymptomatic) for testing. The number of samples taken will be contingent on the number of plants at the nursery that came from an infested nursery (such as if only

5 plants are on hand then take fewer samples than 40). The minimum sample should be what is appropriate for each location to insure a thorough job is done.

a. Fill out PPQ Form 391 (Name of host, variety, state code, facility code, etc.).
b. Assign a unique sample number using the following conventions:
   XX-ABC-0001
   where XX is your two-letter state code, ABC is a three-letter, state-assigned facility code, and 0001 is the sample number for that facility.
c. Log each sample according to the unique sample number.
d. Double bag samples (e.g., symptomatic and/or asymptomatic leaf tissue with associated twig intact) in plastic.
e. Label with collection date, time, location, responsible party. Be sure to write sample number on the bag containing the sample.
f. Refrigerate, but do not freeze specimen.
g. Submit with minimal delay to your designated laboratory for analysis.
h. Overnight the sample if necessary.

8. Inspect greenhouse/nursery waste and refuse piles.

9. Ask owner/manager to identify "cull piles." Inspect these for plant tissue bearing symptoms. Take samples as above if host material is present.

10. If survey requires you to move among multiple greenhouses, disinfect tools, hands and shoes (or wear disposable gloves and booties) to prevent pathogen spread between greenhouses. If using disposable gloves and booties, be sure to dispose of these after each individual greenhouse/shade house/block inspection. Disposable gloves and booties should be bagged and disposed by burial or incineration, or in a landfill).

11. Isolate or at least segregate plants identified from trace forward procedure.

12. Sanitize/disinfect tools, hands and shoes before leaving premises, using an appropriate disinfectant for the control of *Phytophthora spp.* (such as 1/9 solution of chlorine bleach or 70% or better solution of ethanol)

Note: Plants will remain on hold until analysis is completed and a decision is made on final disposition.

Table 1. APHIS :List of Plants Regulated and Associated with *Phytophthora ramorum*
This list is constantly being updated. The most current version is posted at:
www.aphis.usda.gov/ppq/ispm/sod

APHIS List of Plants Regulated and Associated with *Phytophthora ramorum*

Last revised 13 February 2004

Plant species regulated for *Phytophthora ramorum* (these are regulated in whole or in part – see www.aphis.usda.gov/ppq/ispm/sod)

Scientific Name (28)	**Common Name**
Acer macrophyllum	Bigleaf maple
Aesculus californica	California buckeye
Arbutus menziesii	Madrone
Arctostaphylos manzanita	Manzanita
Camellia japonica	Japanese camellia
Camellia sasanqua	Sasanqua camellia
Hamamelis virginiana	Witch hazel
Heteromeles arbutifolia	Toyon
Lithocarpus densiflorus	Tanoak
Lonicera hispidula	California honeysuckle
Pieris formosa	Himalaya pieris
Pieris formosa x japonica	Pieris 'Forest Flame'
Pieris floribunda x japonica	Pieris 'Brouwer's Beauty'
Pieris japonica	Japanese pieris
Pseudotsuga menziesii var. *menziesii*	Douglas-fir
Quercus agrifolia	Coast live oak
Quercus chrysolepis	Canyon live oak
Quercus kelloggii	California black oak
Quercus parvula v. *shrevei*	Shreve oak
Rhamnus californica	California coffeeberry
Rhododendron spp	Rhododendron
Sequoia sempervirens	Coast redwood
Trientalis latifolia	Western starflower
Umbellularia californica	California bay laurel, pepperwood, Oregon myrtle
Vaccinium ovatum	Evergreen huckleberry
Viburnum x bodnantense	Bodnant viburnum
Viburnum plicatum var. *tomentosum*	Doublefile viburnum
Viburnum tinus	Laurustinus

Plant species associated with *P. ramorum*, not currently regulated

Scientific Name (30)	Common Name, Date & Source of Report
Abies grandis	Grand fir – June 03 (1)
Aesculus hippocastanum	Horse-chestnut – Dec 03 (3)
Arbutus unedo	Strawberry tree – Dec 02 (7)
Camellia reticulata	Oct 03 (3)
Camellia x williamsii	Oct 03 (3)
Castanea sativa	Sweet Chestnut Feb 04 (3)
Corylus cornuta	California hazelnut – Dec 02 (5)
Fagus sylvatica	European beech – Dec 03 (3)
Kalmia latifolia	Mountain laurel – Fall 02 (3)
Leucothoe fontanesiana	Drooping leucothoe Oct 03 (3)
Pieris formosa var. forrestii	Chinese pieris Oct 03 (3)
Pieris formosa var. forrestii x Pieris japonica	Oct 03 (3)
Pittosporum undulatum	Victorian box – Dec 02 (6)
Quercus sativa	European turkey oak Feb 04 (3)
Quercus falcata	Southern red oak – Nov 03 (3)
Quercus ilex	Holm oak – Dec 03 (3)
Quercus rubra	Northern red oak – Nov 03 (8)
Rhamnus purshiana	Cascara – Dec 02 (4)
Rubus spectabilis	Salmonberry – Dec 02 (4)
Syringa vulgaris	Lilac – 2003 (3) updated Oct 03
Taxus baccata	European yew (3)
Toxicodendron diversiloba	Poison oak – Dec 02 (4)
Vaccinium vitis-idaea	Lingonberry – Poland, 2002 (reported by 3)
Viburnum davidii	David viburnum Oct 03 (3)
Viburnum farreri (=V. fragrans)	Fragrant viburnum Oct 03 (3)
Viburnum lantana	Wayfaringtree viburnum Oct 03 (3)
Viburnum opulus	European cranberrybush viburnum Oct 03 (3)
Viburnum x burkwoodii	Burkwood viburnum Oct 03 (3)
Viburnum x carlcephalum x V. utile	Oct 03 (3)
Viburnum x pragense	Prague viburnum Oct 03 (3)

[1] California Department of Food and Agriculture
[2] Oregon Department of Agriculture
[3] Department for Environment, Food, and Rural Affairs, UK
[4] Everett Hanson, Oregon State University
[5] David Rizzo, University of California – Davis
[6] Mateo Garbelotto, University of California - Berkeley
[7] Eduardo Moralejo, Instituto Mediterráneo de Estudios Avanzados, IMEDEA (CSIC-UIB) - Balearic Islands, Spain
[8] Plant Protection Service, Wageningen, Netherlands

Rationale for lists:

Plant species regulated for *Phytophthora ramorum:*

Regulated plants are those adapted from other regulated lists or were added upon completion, documentation and review of traditional Koch's postulates. Some are regulated in part (such as redwood and Douglas fir), others are regulated in their entirety (such as tanoak and western star flower). Details on regulated articles can be found via links to "Phytophthora ramorum 7 CFR 301.92" and "Recent Modifications to Phytophthora ramorum Regulations" at:

www.aphis.usda.gov/ppq/ispm/sod

Plant species associated with *P. ramorum*, not currently regulated:

Associated plants are those found naturally infected from which *P. ramorum* has been cultured and/or detected using PCR (Polymerase Chain Reaction). For each of these, traditional Koch's postulates have not yet been completed or documented and reviewed. Though not regulated and not requiring certification under *P. ramorum* regulations, these plants will be inspected in nurseries and Christmas tree plantations and, if symptoms observed, held from sale pending testing.

This list is constantly being updated. The most current version is posted at:
www.aphis.usda.gov/ppq/ispm/sod